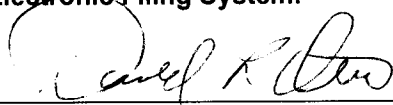


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Date: April 17, 2007

  
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Donald L. Otto

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Attorney Docket GLOLP0113USA

In re PATENT application of

Jeffery R. Parker et al

Serial No. 10/683,630

Filed October 10, 2003

For: TRANSREFLECTORS, TRANSREFLECTOR SYSTEMS AND DISPLAYS  
AND METHODS OF MAKING TRANSREFLECTORS

Art Unit 1732/Confirmation No. 1198

Mathieu D. Vargot, Examiner

**APPELLANTS' BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This is an appeal from the decision of the Examiner mailed November 29, 2006 finally rejected claims 12-19 readable on the elected Species B directed to forming first and second surfaces and coating those which are to be reflective. An Appendix containing a copy of the appealed claims is attached hereto.

## **I. REAL PARTY IN INTEREST**

The real party in interest is Solid State Opto Limited, the assignee of the entire right, title and interest in and to the above application.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences that will directly affect, will be directly affected by, or will have a bearing on the Board's decision in the pending appeal.

## **III. STATUS OF CLAIMS**

Claims 1-25 are pending in the application. The appeal is taken on claims 12-19 directed to the elected Species B. Claims 1-11 and 20-25 are withdrawn from consideration as being directed to non-elected species.

## **IV. STATUS OF AMENDMENTS**

No amendments were filed subsequent to the Final Office Action of November 29, 2006.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The claimed subject matter of elected Species B relates to the method shown in Figs. 10a-10c for making the light reflective and light transmissive surfaces 9 and 10 of the transreflectors 4 and 5 shown in Figs. 1 and 2. In accordance with this method, a plurality of spaced angled or sloping surfaces 9 separated by a plurality of other angled or sloping surfaces 10 are formed in one side of a transparent substrate 7 as shown in Fig. 10b (p. 14, l. 30-33; p. 15, l. 1-2). Then a reflective coating 15 is applied only on the angled surfaces 9 as shown in Fig. 10c using for example a line of site deposition technique to form the reflective surfaces 9 while leaving the light transmissive surfaces

10 uncoated (p. 15, l. 2-5). Alternatively the reflective coating 15 may be hot stamped onto the reflective surfaces 9 (p. 15, l. 5-6).

During or after the forming process, the light transmissive surfaces 10 may be textured or lensed for redirecting light passing through the light transmissive surfaces as desired. The other side of the substrate 7 may be left planar as shown in solid lines 17 in Fig. 10(b) and phantom lines 17 in Fig. 10c or textured or provided with optical deformities 18 as shown in solid lines in Fig. 10c. Also an optical coating 17' may be applied to the other side as further shown in phantom lines in Fig. 10c (p. 14, l. 22-29).

The subject matter defined in independent claim 12 is a method of making a transreflector from a transparent substrate (7) having opposite sides comprising the steps of forming a plurality of spaced first surfaces or areas (9) and a plurality of second surfaces or areas (10) between the first surfaces or areas (9) on or in one side of the substrate (7) (p. 14, l. 30-33, p. 15, l. 1-2; Figs. 10a-10b), and applying a reflective coating, film or layer (15) on the first surfaces or areas (9) which reflect ambient light but not on the second surfaces or areas (10) so the second surfaces or areas (10) transmit light from a backlight (p. 15, l. 2-5; Fig. 10c).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The following grounds of rejection are to be reviewed on appeal:

A. Whether claims 12, 15 and 19 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by Akins et al (US Patent 6,285,425).

B. Whether claims 13, 14 and 16-18 are unpatentable over Akins et al under 35 U.S.C. § 103(a).

## **VII. ARGUMENT**

### **A. The rejection of claims 12, 15 and 19 as being anticipated by Akins et al (US Patent 6,285,425) under 35 U.S.C. § 102(e).**

Claims 12, 15 and 19 are rejected under 35 U.S.C. § 102(e) as being anticipated by Akins et al. According to the Examiner, Fig. 6 of Akins et al discloses the claimed process of forming a transreflector by forming first and second spaced areas 142 and 144 on one surface of a transparent substrate and selectively depositing a reflective coating 168 on the first surfaces 142 while the second surfaces 144 are covered with a light absorbing -ie, anti-reflective-coating. In support, the Examiner refers to column 10, lines 19-31 of Akins et al.

Column 10, lines 19-25 of Akins et al states that the second faces 144, like the first faces 142, are preferably covered with the reflective metallic layer 168 to simplify the manufacturing process. Column 10, lines 27-30 describes an alternative embodiment in which the second face 142 is not covered with a reflective material, but may be covered with a light absorbing coating or the second face may expose a polymeric base material having light-absorbing properties.

According to the Examiner, given that the reflector would function in the device of Figure 2 of Akins et al, the second areas would function in the instant manner of transmitting "light from a backlight" as claimed. Appellants respectfully disagree, in that covering the second faces 144 of Akins et al with a light absorbing coating or exposing the second faces to a polymeric face material having light-absorbing properties would not produce a transreflector having a plurality of spaced first surfaces or areas on which a reflective coating, film or layer is applied to reflect ambient light and a plurality of

second surfaces or areas between the first surfaces or areas on which the reflective coating, film or layer is not applied so the second surfaces or areas transmit light from a backlight as recited in claim 12.

To the contrary, as stated in column 5, lines 33-56 of Akins et al, to permit backlighting of an optical display from a light source 76 as shown in Fig. 2, the metallic layer 568 on the first surfaces 142 is made sufficiently thin such that the reflective metallic layer 568 is discontinuous to permit partial transmission of light between the ridged surface 532 and the opposite surface 534; not by not applying a reflective coating, film or layer on the second surfaces or areas 144 so the second surfaces or areas transmit light from a backlight as recited in claim 12. Accordingly, reversal of the Examiner's rejection of claim 12 is respectfully requested.

Claims 15 and 19 depend from claim 12 and are submitted as allowable for substantially the same reasons. Moreover, claim 19 further patentably distinguishes over Akins et al by reciting the step of applying an antireflection coating to the second surfaces or areas so as not to reflect the transmission of light through the second surfaces from a backlight. Applying a light absorbing coating to the second surfaces 144 as taught by Akins et al would interfere with the transmission of light through the second surfaces from a backlight; not facilitate such transmission.

**B. The rejection of claims 13, 14 and 16-18 as being unpatentable over Akins et al under 35 U.S.C. § 103(a).**

Claims 13, 14 and 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akins et al.

The Examiner acknowledges that Akins et al fails to explicitly teach the deposition as recited in claim 13, the hot stamping of claim 14 and the texturing and provision of optical deformities on the surfaces other than the first surfaces as recited in claims 16-18. However, all of these claims are dependent on claim 12 and are submitted as allowable at least for the same reasons.

Moreover, regarding claim 13, while line-of-site deposition methods are generally known, not to make a transreflector in the manner recited in claims 12 and 13. Also appellants disagree with the Examiner that it would have been obvious to hot stamp the reflective coating onto the first surfaces or areas as recited in claim 14 based on the disclosure in column 9, lines 47-57 of Akins et al that the reflective metallic layer may be applied by depositing, sputtering, plating, or electrolessly plating the polymeric material with a reflective material. Further, while column 9, lines 15-21 of Akins et al discloses that the reflective metallic layer may be sufficiently roughened to scatter light, there is absolutely no disclosure or suggestion in Akins et al of texturing the second surfaces or areas that transmit light from a backlight as recited in claim 16 or forming optical shapes on or in the second surfaces or areas as recited in claim 17 or forming optical deformities on or in the other side of the substrate as recited in claim 18. Accordingly, claims 13, 14 and 16-18 are submitted as further allowable in their own right in addition to being dependent on claim 12.

## **VIII. CONCLUSION**


For the reasons set forth above, appellants respectfully request that the rejection of claims 12-19 on appeal be reversed and that such claims be allowed.

This Brief is being transmitted via the USPTO Electronic Filing System along with a credit card payment in the amount of \$500.00 to cover the costs associated with its filing.

In the event an extension of time is necessary, this should be considered a petition for such an extension. If required, fees are enclosed for the extension of time. In the event any additional fees are due in connection with the filing of this Brief, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988 (Attorney Docket GLOLP0113USA).

Respectfully submitted,

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## **IX. CLAIMS APPENDIX**

12. A method of making a transreflector from a transparent substrate having opposite sides comprising the steps of forming a plurality of spaced first surfaces or areas and a plurality of second surfaces or areas between the first surfaces or areas on or in one side of the substrate, and applying a reflective coating, film or layer on the first surfaces or areas to reflect ambient light but not on the second surfaces or areas so the second surfaces or areas transmit light from a backlight.

13. The method of claim 12 wherein the first surfaces or areas are angled so as to be in a common line of site and the second surfaces or areas are angled so as to be out of the common line of site of the first surfaces or areas, and the reflective coating is a metallized coating that is deposited onto the first surfaces or areas using a line of site deposition technique that does not deposit the metallized coating onto the second surfaces or areas.

14. The method of claim 12 wherein the reflective coating is hot stamped onto the first surfaces or areas.

15. The method of claim 12 wherein the reflective coating is a secondary film applied to or in close proximity to the first surfaces or areas.

16. The method of claim 12 further comprising the step of texturing the second surfaces or areas.



17. The method of claim 12 further comprising the step of forming optical shapes on or in the second surfaces or areas.

18. The method of claim 12 further comprising the step of forming optical deformities on or in the other side of the substrate.

19. The method of claim 12 further comprising the step of applying an antireflection coating to the second surfaces or areas.

## **X. EVIDENCE APPENDIX**

An Evidence Appendix is attached but sets forth no evidence.

## **XI. RELATED PROCEEDINGS APPENDIX**

A Related Proceedings Appendix is attached but sets forth no proceedings.

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